

What is claimed is:

1. A method of transforming a crystal structure of a Group XIII nitride comprising:

5 a step of generating an aerosol of a starting material powder composed of particles of a Group XIII nitride of hexagonal crystal structure in a carrier gas; and

a step of blowing the aerosol onto a substrate in a depressurized film deposition chamber to make an impact force of the particles at collision with the substrate 4 GPa or greater, thereby transforming the crystal structure of the Group XIII nitride colliding with the substrate to cubic crystal structure.

10 2. A method of transforming the crystal structure of a Group XIII nitride according to claim 1, wherein the impact force of the particles at collision with the substrate is made 4 GPa or greater by blowing the aerosol so as to make a particle velocity 300 m/s or greater.

15 3. A Group XIII nitride obtained by generating an aerosol of a starting material powder composed of particles of a Group XIII nitride of hexagonal crystal structure in a carrier gas and blowing the aerosol onto a substrate in a depressurized film deposition chamber to make an impact force of the particles at collision with the substrate between not less than 4 GPa and not greater than 9 GPa, which obtained Group XIII nitride comprises particles transformed to cubic crystal structure by collision with the substrate intermixed with particles still retaining the hexagonal crystal structure.

20 4. A constituent containing a cubic nitride produced by generating an aerosol of a starting material powder composed of particles of a Group XIII nitride of hexagonal crystal structure in a carrier gas and blowing the aerosol onto a substrate of very thin wafer material in a depressurized film deposition chamber to make an impact force of the particles at collision with the substrate 4 GPa or greater, thereby transforming the crystal structure of the Group XIII nitride to cubic crystal structure by collision with the substrate to obtain the constituent containing a cubic nitride in a form

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of cubic nitride adhered to a substrate.

5. A constituent containing a cubic nitride according to claim 4, which is obtained by making the impact force of the particles at collision with the substrate 9 GPa or less, thereby causing the constituent containing a cubic nitride to comprise, as adhered to the substrate, particles of Group XIII nitride transformed to cubic crystal structure by collision with the substrate intermixed with particles of Group XIII nitride still retaining the hexagonal crystal structure.